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MULTIPLE INPUT PRODUCTIVITY INDEXES

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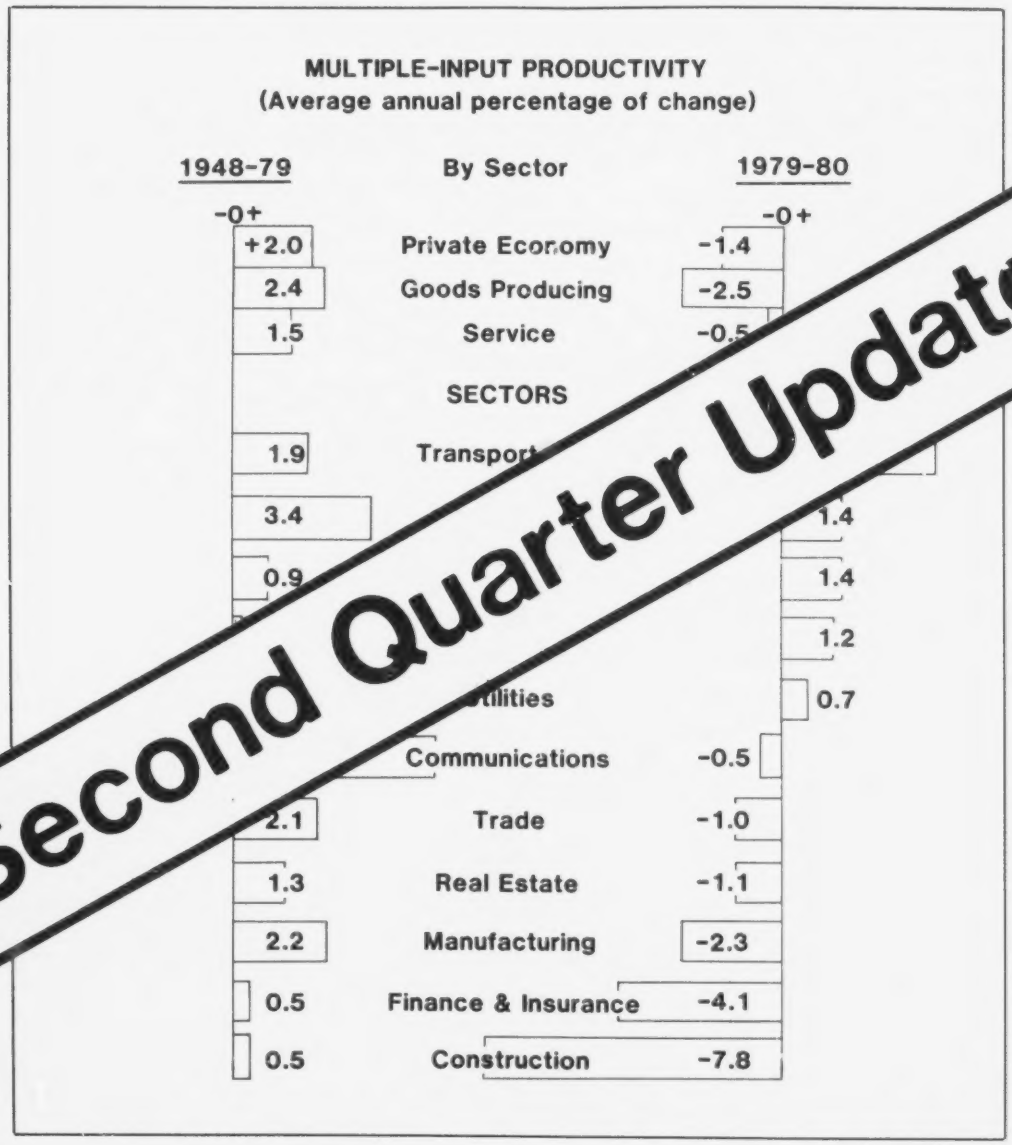

Second Quarter Update

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FIRST, SECOND QUARTER PRODUCTIVITY GAINS SIGNAL APPARENT REVERSAL OF THREE-YEAR DECLINE

Productivity for the private business economy grew at an annual rate of 1.5 percent during second quarter 1981, according to the American Productivity Center's weighted labor/capital measurement service, the Multiple Input Productivity Index. This rise follows a strong first quarter gain of 4.3 percent and apparently indicates the economy's break from the productivity doldrums of the past three years.

The modest second quarter gains overlay significant variations in productivity dynamics for the several segments of the economy. The average for goods-producing industries improved at a strong 8.8 percent average, reflecting:

- A modest gain of 3.4 percent for manufacturing
- A surprisingly strong gain of 6.8 percent for mining
- An even more surprising gain of 8.8 percent for construction; and
- A truly spectacular surge in the seasonally volatile farming sector of 57.2 percent, based on an output gain of 43 percent; a decline of 27 percent in labor input; and a rise of 15 percent in capital input -- all at annual rates.

In sharp contrast, average productivity for the service industries declined 3.1 percent in second quarter 1981. While quarterly data are not available for individual services sectors, it appears likely that productivity sagged in real estate, trade and "other services" activities as inflation and high interest rates forced a decline in purchasing and in other phases of economic activity after a strong first quarter.

As is usual in periods of rising productivity, labor productivity rose more strongly than did output per unit of capital input, at a 2.8 percent annual rate. A drop in labor input accompanied by no change in capital input resulted in a second quarter rise in the capital/labor ratio.

Total factor (multiple-input) productivity for private business in 1981-II rose almost to the 1977 level while the labor productivity index was one percent above the 1977 level. Despite these gains, economists anticipate a lackluster performance during the third and fourth quarters of 1981. Overall, the average gain for calendar 1981 is likely to be approximately 1.5 percent.

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This analysis should be treated as an addition to Multiple Input Productivity Indexes, Vol. 2, Number 1. The tables are numbered accordingly.

Table VII
Quarterly Indexes of Productivity
1980 I to 1981 II
Multiple Input, Labor, Capital and Capital/Labor Ratio
(1977=100)

1. Private Business Economy

		Multi-Input Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1980	I	99.8	99.5	100.5	99.1
	II	98.3	99.1	96.8	102.4
	III	98.4	99.4	96.4	103.1
	IV	98.5	99.1	97.3	101.9
1981	I	99.5	100.3	98.2	102.1
	II	99.9	101.0	97.9	103.1
Percent Change: (Annual Rate)					
1981	I	4.3	4.6	3.7	0.9
	II	1.5	2.8	-1.1	4.0

2. Goods Producing Sector

		Multi-Input Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1980	I	98.6	101.5	99.3	102.2
	II	96.1	100.4	93.1	107.8
	III	93.8	98.4	89.9	109.5
	IV	96.5	100.4	94.2	106.6
1981	I	98.2	102.1	96.1	106.2
	II	100.3	105.1	96.3	109.2
Percent Change: (Annual Rate)					
1981	I	7.2	6.7	8.6	-1.7
	II	8.8	12.3	0.5	11.7

3. Service Producing Sector

		Multi-Input Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1980	I	91.9	101.0	101.0	100.0
	II	91.2	101.0	99.1	101.9
	III	92.8	102.8	100.8	101.9
	IV	91.3	101.0	99.3	101.7
1981	I	91.8	101.8	99.5	102.3
	II	91.1	100.9	98.8	102.1
Percent Change: (Annual Rate)					
1981	I	2.3	3.2	0.8	2.4
	II	-3.1	-3.4	-2.6	-0.9

Table VII (Cont'd)
Quarterly Indexes of Productivity
1980 I to 1981 II
Multiple Input, Labor, Capital and Capital/Labor Ratio
(1977=100)

4. Nonfinancial Corporate Business

		Multi-Input Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1980	I	101.0	100.2	103.5	96.8
	II	100.0	100.1	99.9	100.2
	III	101.4	101.8	100.9	100.8
	IV	100.9	100.6	102.2	98.5
1981	I	103.8	103.3	105.7	97.8
	II	103.7	103.6	104.4	99.2
Percent Change: (Annual Rate)					
1981	I	12.0	11.2	14.5	-2.9
	II	-0.6	0.9	-4.8	6.0

5. Farming

		Multi-Input Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1980	I	111.8	115.9	108.4	106.9
	II	116.7	124.7	110.3	113.0
	III	100.4	105.9	95.9	110.4
	IV	97.7	100.4	95.5	105.1
1981	I	99.5	103.1	96.5	106.9
	II	111.4	120.2	104.3	115.2
Percent Change: (Annual Rate)					
1981	I	7.6	11.4	4.2	6.9
	II	57.2	84.5	36.8	34.8

Table VII (Cont'd)
Quarterly Indexes of Productivity
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(1977=100)

6. Manufacturing Industry

		Multi-Input Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1980	I	101.0	102.0	98.3	103.8
	II	98.3	100.8	91.8	109.7
	III	97.4	100.5	89.6	112.2
	IV	100.8	103.4	94.1	109.8
1981	I	101.6	104.2	95.0	109.7
	II	102.5	105.3	95.2	110.6
Percent Change: (Annual Rate)					
1981	I	3.3	3.2	3.6	-0.4
	II	3.4	4.3	0.9	3.4

7. Nonfarm Nonmanufacturing Industry

		Multi-Input Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1980	I	98.5	97.6	100.5	97.1
	II	97.3	97.2	97.9	99.3
	III	98.6	98.6	99.0	99.6
	IV	97.4	97.2	98.2	99.0
1981	I	98.5	98.4	99.0	99.3
	II	97.9	98.1	98.1	100.0
Percent Change: (Annual Rate)					
1981	I	4.3	4.7	3.5	1.2
	II	-2.2	-1.3	-3.8	2.6

Note: Percent changes are average annual rates of change from the previous quarter. First and second quarter 1981 are revised, as published by the Bureau of Labor Statistics, Department of Labor, August 26, 1981 release.

SPECIAL FEATURE

LEVELS OF PRODUCTIVITY IN MANUFACTURING INDUSTRY GROUPS

In addition to the quarterly trend data for the major segments of the economy, this edition of the Multiple Input Productivity Index includes computations on levels of output per hour and capital stock per hour. This data for the manufacturing industry groups covers the years 1948, 1965, 1973 and 1980.

For all manufacturing industries, output per hour expressed in "real" (1972 constant) dollars, was $8.20 in 1980. This was slightly lower than the 1979 level, but significantly higher than the figures for 1965 and 1973, and more than double the level for 1948 ($3.65). Since these "real" dollar output per hour figures overcome the effects of inflation, they are a revealing reflection of the average gain in earning power which accrues to rising productivity.

Multiplying the 1980 Bureau of Labor Statistics estimate of 39.7 hours per week in manufacturing times 52 weeks*, the average manufacturing employed person accounted for a total output of $16,928.08 in 1980. This contrasts with the 1948 level of 40 hours per week at $3.65 per hour, for an annual output total of $7,592. (Table VIII e).

Just as in the case of productivity trends, the data on productivity levels reveals major divergences between the manufacturing industry groups. Output per hour in 1980, for example, ranged from a high of $19.61 for petroleum refining down to $3.44 for tobacco products -- a range of nearly six to one. (The range for 1973 was a full seven to one.)

With the notable exception of tobacco, those industries with the highest capital stock per hour also recorded the highest levels of labor productivity. (Chart 1 and Table VIII f).

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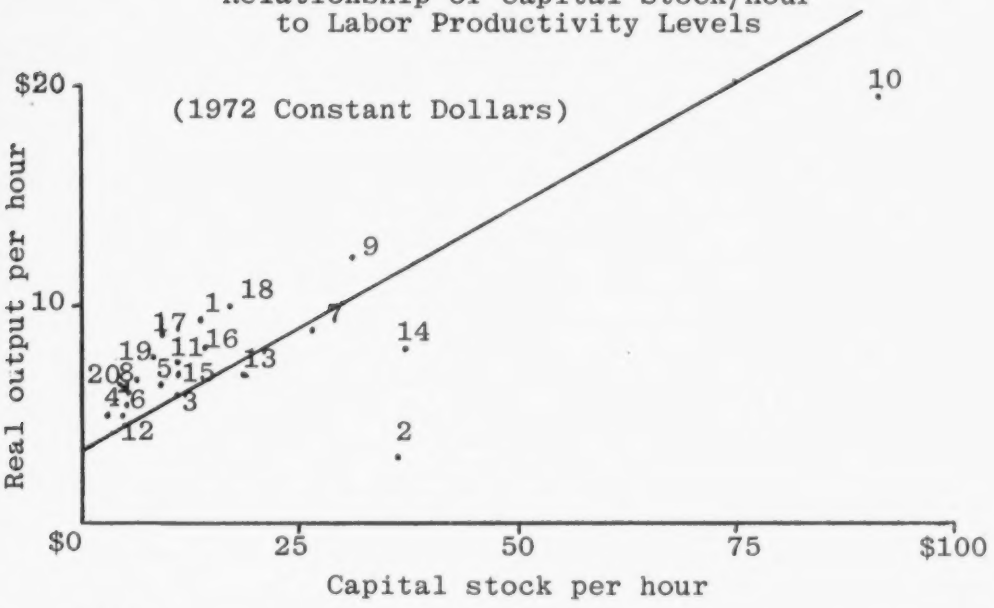
* The output figure is related to the BLS estimates of "hours paid for."

Chart 1

Productivity Levels
Relationship of Capital Stock/Hour
to Labor Productivity Levels



KEY--

1 Food	7 Paper	12 Leather	16 Machinery,	
2 Tobacco	8 Printing,	13 Stone, Clay	Except Electrical	
3 Textiles	Publishing	& Glass	17 Electrical Machinery	
4 Apparel	9 Chemicals	14 Primary	18 Transportation Equip	
5 Lumber	10 Petroleum	Metals	19 Instruments	
6 Furniture	11 Rubber	15 Fabricated	20 Misc. Manufactures	
		Metals		

Table VIII e
REAL OUTPUT PER HOUR
(IN 1972 CONSTANT DOLLARS)

	1948	1965	1973	1979	1980
All Manufacturing	$ 3.65	$ 6.03	$ 7.52	$ 8.23	$ 8.20
Food	3.51	5.98	8.56	8.90	8.90
Tobacco	1.06	2.06	2.83	3.34	3.44
Textiles	1.55	3.60	4.65	6.05	5.93
Apparel	2.20	3.07	4.02	5.11	4.95
Lumber	2.52	5.12	5.90	6.52	6.37
Furniture	2.91	4.05	4.48	5.60	5.51
Paper	3.71	5.68	8.13	8.77	8.97
Printing, Publishing	4.12	6.19	6.94	6.58	6.60
Chemicals	3.36	7.31	10.67	12.39	12.23
Petroleum	6.19	15.50	19.95	18.66	19.61
Rubber	4.06	6.12	7.22	7.31	7.58
Leather	2.98	3.56	4.27	4.57	4.80
Stone, Clay & Glass	4.11	6.27	6.90	7.26	7.04
Primary Metals	6.36	8.16	9.18	8.47	8.12
Fabricated Metals	4.02	5.77	6.50	7.00	6.88
Machinery, Except Electrical	4.74	6.35	7.43	8.05	8.10
Electrical Machinery	2.48	5.21	6.81	8.50	8.49
Transportation Equipment	4.27	7.81	9.99	10.62	10.28
Instruments	3.02	5.79	7.38	7.97	7.79
Miscellaneous Manufactures	2.54	3.95	5.50	6.26	6.44

Table VIII f
CAPITAL STOCK PER HOUR
(IN 1972 CONSTANT DOLLARS)

	1948	1965	1973	1979	1980
All Manufacturing	$ 7.03	$ 9.96	$12.11	$14.52	$15.50
Food	8.35	10.01	11.75	13.80	14.15
Tobacco	8.38	21.19	28.33	35.56	36.63
Textiles	2.54	7.64	8.83	10.65	11.08
Apparel	1.81	2.04	2.80	3.48	3.55
Lumber	6.01	5.12	6.60	8.71	9.78
Furniture	3.84	3.94	4.75	5.89	6.24
Paper	14.17	16.83	19.63	25.59	27.58
Printing, Publishing	5.94	5.66	7.34	7.92	7.90
Chemicals	14.27	21.94	25.05	31.19	32.55
Petroleum	30.55	59.25	71.58	79.66	91.04
Rubber	6.87	8.26	9.11	10.36	11.20
Leather	1.49	2.13	3.20	3.95	4.14
Stone, Clay & Glass	8.30	13.04	14.50	17.67	19.40
Primary Metals	13.37	22.86	27.90	32.94	37.93
Fabricated Metals	4.11	7.29	8.42	10.48	11.37
Machinery, Except Electrical	5.60	8.93	11.42	13.45	14.10
Electrical Machinery	4.86	5.68	7.92	9.38	9.83
Transportation Equipment	7.66	8.79	12.19	14.54	17.19
Instruments	4.77	6.51	8.14	8.45	8.53
Miscellaneous Manufactures	2.22	4.06	4.77	5.11	5.55